OIPE

RAW SEQUENCE LISTING DATE: 08/29/2002
PATENT APPLICATION: US/10/088,950A TIME: 12:34:30

Input Set : A:\P1748R1E.txt
Output Set: N:\CRF3\08292002\J088950A.raw

ENTERED

<110> APPLICANT: De Sauvage, Frederic
Grewal, Iqbal
Gurney, Austin L.
<120> TITLE OF INVENTION: MODULATION OF T CELL DIFFERENTIATION FOR THE TREATMENT OF T HELPER CELL MEDIATED DISEASES
<130> FILE REFERENCE: P1748R1E
<140> CURRENT APPLICATION NUMBER: US 10/088,950A
<141> CURRENT FILING DATE: 2002-03-20
<150> PRIOR APPLICATION NUMBER: US 60/160,542
<151> PRIOR FILING DATE: 1999-10-20
<150> PRIOR APPLICATION NUMBER: PCT/US00/28827
<151> PRIOR FILING DATE: 2000-10-18
<160> NUMBER OF SEQ ID NOS: 16
<210> SEQ ID NO: 1
<211> LENGTH: 636
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 1

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 1               5                  10                  15
Lys Leu Ala Leu Leu Pro Leu Leu Trp Val Leu Phe Gln Arg Thr
            20                  25                  30
Arg Pro Gln Gly Ser Ala Gly Pro Leu Gln Cys Tyr Gly Val Gly
        35                  40                  45
Pro Leu Gly Asp Leu Asn Cys Ser Trp Glu Pro Leu Gly Asp Leu
    50                  55                  60
Gly Ala Pro Ser Glu Leu His Leu Gln Ser Gln Lys Tyr Arg Ser
65                  70                  75
Asn Lys Thr Gln Thr Val Ala Val Ala Ala Gly Arg Ser Trp Val
                80                  85                  90
Ala Ile Pro Arg Glu Gln Leu Thr Met Ser Asp Lys Leu Leu Val
            95                  100                 105
Trp Gly Thr Lys Ala Gly Gln Pro Leu Trp Pro Pro Val Phe Val
        110                 115                 120
Asn Leu Glu Thr Gln Met Lys Pro Asn Ala Pro Arg Leu Gly Pro
    125                 130                 135
Asp Val Asp Phe Ser Glu Asp Asp Pro Leu Glu Ala Thr Val His
140                 145                 150
Trp Ala Pro Pro Thr Trp Pro Ser His Lys Val Leu Ile Cys Gln
            155                 160                 165
Phe His Tyr Arg Arg Cys Gln Glu Ala Ala Trp Thr Leu Leu Glu
        170                 175                 180
Pro Glu Leu Lys Thr Ile Pro Leu Thr Pro Val Glu Ile Gln Asp
```

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```
                  185                 190                 195
Leu Glu Leu Ala Thr Gly Tyr Lys Val Tyr Gly Arg Cys Arg Met
                  200                 205                 210
Glu Lys Glu Glu Asp Leu Trp Gly Glu Trp Ser Pro Ile Leu Ser
                  215                 220                 225
Phe Gln Thr Pro Pro Ser Ala Pro Lys Asp Val Trp Val Ser Gly
                  230                 235                 240
Asn Leu Cys Gly Thr Pro Gly Gly Glu Glu Pro Leu Leu Leu Trp
                  245                 250                 255
Lys Ala Pro Gly Pro Cys Val Gln Val Ser Tyr Lys Val Trp Phe
                  260                 265                 270
Trp Val Gly Gly Arg Glu Leu Ser Pro Glu Gly Ile Thr Cys Cys
                  275                 280                 285
Cys Ser Leu Ile Pro Ser Gly Ala Glu Trp Ala Arg Val Ser Ala
                  290                 295                 300
Val Asn Ala Thr Ser Trp Glu Pro Leu Thr Asn Leu Ser Leu Val
                  305                 310                 315
Cys Leu Asp Ser Ala Ser Ala Pro Arg Ser Val Ala Val Ser Ser
                  320                 325                 330
Ile Ala Gly Ser Thr Glu Leu Leu Val Thr Trp Gln Pro Gly Pro
                  335                 340                 345
Gly Glu Pro Leu Glu His Val Val Asp Trp Ala Arg Asp Gly Asp
                  350                 355                 360
 Pro Leu Glu Lys Leu Asn Trp Val Arg Leu Pro Pro Gly Asn Leu
                  365                 370                 375
 Ser Ala Leu Leu Pro Gly Asn Phe Thr Val Gly Val Pro Tyr Arg
                  380                 385                 390
 Ile Thr Val Thr Ala Val Ser Ala Ser Gly Leu Ala Ser Ala Ser
                  395                 400                 405
 Ser Val Trp Gly Phe Arg Glu Glu Leu Ala Pro Leu Val Gly Pro
                  410                 415                 420
 Thr Leu Trp Arg Leu Gln Asp Ala Pro Pro Gly Thr Pro Ala Ile
                  425                 430                 435
 Ala Trp Gly Glu Val Pro Arg His Gln Leu Arg Gly His Leu Thr
                  440                 445                 450
 His Tyr Thr Leu Cys Ala Gln Ser Gly Thr Ser Pro Ser Val Cys
                  455                 460                 465
 Met Asn Val Ser Gly Asn Thr Gln Ser Val Thr Leu Pro Asp Leu
                  470                 475                 480
 Pro Trp Gly Pro Cys Glu Leu Trp Val Thr Ala Ser Thr Ile Ala
                  485                 490                 495
 Gly Gln Gly Pro Pro Gly Pro Ile Leu Arg Leu His Leu Pro Asp
                  500                 505                 510
 Asn Thr Leu Arg Trp Lys Val Leu Pro Gly Ile Leu Phe Leu Trp
                  515                 520                 525
 Gly Leu Phe Leu Leu Gly Cys Gly Leu Ser Leu Ala Thr Ser Gly
                  530                 535                 540
 Arg Cys Tyr His Leu Arg His Lys Val Leu Pro Arg Trp Val Trp
                  545                 550                 555
```

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Output Set: N:\CRF3\08292002\J088950A.raw

```
140  Glu Lys Val Pro Asp Pro Ala Asn Ser Ser Ser Gly Gln Pro His
141                  560                 565                 570
143  Met Glu Gln Val Pro Glu Ala Gln Pro Leu Gly Asp Leu Pro Ile
144                  575                 580                 585
146  Leu Glu Val Glu Glu Met Glu Pro Pro Pro Val Met Glu Ser Ser
147                  590                 595                 600
149  Gln Pro Ala Gln Ala Thr Ala Pro Leu Asp Ser Gly Tyr Glu Lys
150                  605                 610                 615
152  His Phe Leu Pro Thr Pro Glu Glu Leu Gly Leu Leu Gly Pro Pro
153                  620                 625                 630
155  Arg Pro Gln Val Leu Ala
156                  635
158 <210> SEQ ID NO: 2
159 <211> LENGTH: 623
160 <212> TYPE: PRT
161 <213> ORGANISM: Mus musculus
163 <400> SEQUENCE: 2
164  Met Asn Arg Leu Arg Val Ala Arg Leu Thr Pro Leu Glu Leu Leu
165    1               5                  10                  15
167  Leu Ser Leu Met Ser Leu Leu Leu Gly Thr Arg Pro His Gly Ser
168                   20                  25                  30
170  Pro Gly Pro Leu Gln Cys Tyr Ser Val Gly Pro Leu Gly Ile Leu
171                   35                  40                  45
173  Asn Cys Ser Trp Glu Pro Leu Gly Asp Leu Glu Thr Pro Pro Val
174                   50                  55                  60
176  Leu Tyr His Gln Ser Gln Lys Tyr His Pro Asn Arg Val Trp Glu
177                   65                  70                  75
179  Val Lys Val Pro Ser Lys Gln Ser Trp Val Thr Ile Pro Arg Glu
180                   80                  85                  90
182  Gln Phe Thr Met Ala Asp Lys Leu Leu Ile Trp Gly Thr Gln Lys
183                   95                 100                 105
185  Gly Arg Pro Leu Trp Ser Ser Val Ser Val Asn Leu Glu Thr Gln
186                  110                 115                 120
188  Met Lys Pro Asp Thr Pro Gln Ile Phe Ser Gln Val Asp Ile Ser
189                  125                 130                 135
191  Glu Glu Ala Thr Leu Glu Ala Thr Val Gln Trp Ala Pro Pro Val
192                  140                 145                 150
194  Trp Pro Pro Gln Lys Ala Leu Thr Cys Gln Phe Arg Tyr Lys Glu
195                  155                 160                 165
197  Cys Gln Ala Glu Ala Trp Thr Arg Leu Glu Pro Gln Leu Lys Thr
198                  170                 175                 180
200  Asp Gly Leu Thr Pro Val Glu Met Gln Asn Leu Glu Pro Gly Thr
201                  185                 190                 195
203  Cys Tyr Gln Val Ser Gly Arg Cys Gln Val Glu Asn Gly Tyr Pro
204                  200                 205                 210
206  Trp Gly Glu Trp Ser Ser Pro Leu Ser Phe Gln Thr Pro Phe Leu
207                  215                 220                 225
209  Asp Pro Glu Asp Val Trp Val Ser Gly Thr Val Cys Glu Thr Ser
210                  230                 235                 240
```

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PATENT APPLICATION: US/10/088,950A TIME: 12:34:30

Input Set : A:\P1748R1E.txt
Output Set: N:\CRF3\08292002\J088950A.raw

```
212  Gly Lys Arg Ala Ala Leu Leu Val Trp Lys Asp Pro Arg Pro Cys
213                  245                 250                 255
215  Val Gln Val Thr Tyr Thr Val Trp Phe Gly Ala Gly Asp Ile Thr
216                  260                 265                 270
218  Thr Thr Gln Glu Glu Val Pro Cys Cys Lys Ser Pro Val Pro Ala
219                  275                 280                 285
221  Trp Met Glu Trp Ala Val Val Ser Pro Gly Asn Ser Thr Ser Trp
222                  290                 295                 300
224  Val Pro Pro Thr Asn Leu Ser Leu Val Cys Leu Ala Pro Glu Ser
225                  305                 310                 315
227  Ala Pro Cys Asp Val Gly Val Ser Ser Ala Asp Gly Ser Pro Gly
228                  320                 325                 330
230  Ile Lys Val Thr Trp Lys Gln Gly Thr Arg Lys Pro Leu Glu Tyr
231                  335                 340                 345
233  Val Val Asp Trp Ala Gln Asp Gly Asp Ser Leu Asp Lys Leu Asn
234                  350                 355                 360
236  Trp Thr Arg Leu Pro Pro Gly Asn Leu Ser Thr Leu Leu Pro Gly
237                  365                 370                 375
239  Glu Phe Lys Gly Gly Val Pro Tyr Arg Ile Thr Val Thr Ala Val
240                  380                 385                 390
242  Tyr Ser Gly Gly Leu Ala Ala Ala Pro Ser Val Trp Gly Phe Arg
243                  395                 400                 405
245  Glu Glu Leu Val Pro Leu Ala Gly Pro Ala Val Trp Arg Leu Pro
246                  410                 415                 420
248  Asp Asp Pro Pro Gly Thr Pro Val Val Ala Trp Gly Glu Val Pro
249                  425                 430                 435
251  Arg His Gln Leu Arg Gly Gln Ala Thr His Tyr Thr Phe Cys Ile
252                  440                 445                 450
254  Gln Ser Arg Gly Leu Ser Thr Val Cys Arg Asn Val Ser Ser Gln
255                  455                 460                 465
257  Thr Gln Thr Ala Thr Leu Pro Asn Leu His Ser Gly Ser Phe Lys
258                  470                 475                 480
260  Leu Trp Val Thr Val Ser Thr Val Ala Gly Gln Gly Pro Pro Gly
261                  485                 490                 495
263  Pro Asp Leu Ser Leu His Leu Pro Asp Asn Arg Ile Arg Trp Lys
264                  500                 505                 510
266  Ala Leu Pro Trp Phe Leu Ser Leu Trp Gly Leu Leu Leu Met Gly
267                  515                 520                 525
269  Cys Gly Leu Ser Leu Ala Ser Thr Arg Cys Leu Gln Ala Arg Cys
270                  530                 535                 540
272  Leu His Trp Arg His Lys Leu Leu Pro Gln Trp Ile Trp Glu Arg
273                  545                 550                 555
275  Val Pro Asp Pro Ala Asn Ser Asn Ser Gly Gln Pro Tyr Ile Lys
276                  560                 565                 570
278  Glu Val Ser Leu Pro Gln Pro Pro Lys Asp Gly Pro Ile Leu Glu
279                  575                 580                 585
281  Val Glu Glu Val Glu Leu Gln Pro Val Val Glu Ser Pro Lys Ala
282                  590                 595                 600
284  Ser Ala Pro Ile Tyr Ser Gly Tyr Glu Lys His Phe Leu Pro Thr
```

RAW SEQUENCE LISTING DATE: 08/29/2002
PATENT APPLICATION: US/10/088,950A TIME: 12:34:30

Input Set : A:\P1748R1E.txt
Output Set: N:\CRF3\08292002\J088950A.raw

285 605 610 615
287 Pro Glu Glu Leu Gly Leu Leu Val
288 620
290 <210> SEQ ID NO: 3
291 <211> LENGTH: 2646
292 <212> TYPE: DNA
293 <213> ORGANISM: Homo sapiens
295 <220> FEATURE:
296 <221> NAME/KEY: unsure
297 <222> LOCATION: 2433
298 <223> OTHER INFORMATION: unknown base
300 <400> SEQUENCE: 3
301 gtgggttcgg cttcccgttg cgcctcgggg gctgtaccca gagctcgaag 50
303 aggagcagcg cggcccgcac ccggcaaggc tgggccggac tcggggctcc 100
305 cgagggacgc catgcgggga ggcaggggcg ccccttttctg gctgtggccg 150
307 ctgcccaagc tggcgctgct gcctctgttg tgggtgcttt tccagcggac 200
309 gcgtccccag ggcagcgccg ggccactgca gtgctacgga gttggaccct 250
311 tgggcgactt gaactgctcg tgggagcctc ttggggacct gggagccccc 300
313 tccgagttac acctccagag ccaaaagtac cgttccaaca aaacccagac 350
315 tgtggcagtg gcagccggac ggagctgggt ggccattcct cgggaacagc 400
317 tcaccatgtc tgacaaactc cttgtctggg gcactaaggc aggccagcct 450
319 ctctggcccc ccgtcttcgt gaacctagaa acccaaatga agccaaacgc 500
321 cccccggctg ggccctgacg tggacttttc cgaggatgac cccctggagg 550
323 ccactgtcca ttgggcccca cctacatggc catctcataa agttctgatc 600
325 tgccagttcc actaccgaag atgtcaggag gcggcctgga ccctgctgga 650
327 accggagctg aagaccatac ccctgacccc tgttgagatc caagatttgg 700
329 agctagccac tggctacaaa gtgtatggcc gctgccggat ggagaaagaa 750
331 gaggatttgt ggggcgagtg gagccccatt ttgtccttcc agacaccgcc 800
333 ttctgctcca aaagatgtgt gggtatcagg gaacctctgt gggacgcctg 850
335 gaggagagga acctttgctt ctatggaagg ccccagggcc ctgtgtgcag 900
337 gtgagctaca aagtctggtt ctgggttgga ggtcgtgagc tgagtccaga 950
339 aggaattacc tgctgctgct ccctaattcc cagtggggcg gagtgggcca 1000
341 gggtgtccgc tgtcaacgcc acaagctggg agcctctcac caacctctct 1050
343 ttggtctgct tggattcagc ctctgccccc cgtagcgtgg cagtcagcag 1100
345 catcgctggg agcacggagc tactggtgac ctggcaaccg gggcctgggg 1150
347 aaccactgga gcatgtagtg gactgggctc gagatgggga ccccctggag 1200
349 aaactcaact gggtccggct tccccctggg aacctcagtg ctctgttacc 1250
351 agggaatttc actgtcgggg tcccctatcg aatcactgtg accgcagtct 1300
353 ctgcttcagg cttggcctct gcatcctccg tctgggggtt cagggaggaa 1350
355 ttagcacccc tagtggggcc aacgctttgg cgactccaag atgcccctcc 1400
357 agggaccccc gccatagcgt ggggagaggt cccaaggcac cagcttcgag 1450
359 gccacctcac ccactacacc ttgtgtgcac agagtggaac cagcccctcc 1500
361 gtctgcatga atgtgagtgg caacacacag agtgtcaccc tgcctgacct 1550
363 tccttggggt ccctgtgagc tgtgggtgac agcatctacc atcgctggac 1600
365 agggccctcc tggtcccatc ctccggcttc atctaccaga taacaccctg 1650
367 aggtggaaag ttctgccggg catcctattc ttgtggggct tgttcctgtt 1700
369 ggggtgtggc ctgagcctgg ccacctctgg aaggtgctac cacctaaggc 1750
371 acaaagtgct gccccgctgg gtctgggaga aagttcctga tcctgccaac 1800
373 agcagttcag gccagcccca catggagcaa gtacctgagg cccagccct 1850

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 08/29/2002
PATENT APPLICATION: US/10/088,950A TIME: 12:34:31

Input Set : A:\P1748R1E.txt
Output Set: N:\CRF3\08292002\J088950A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 2433

VERIFICATION SUMMARY DATE: 08/29/2002
PATENT APPLICATION: US/10/088,950A TIME: 12:34:31

Input Set : A:\P1748R1E.txt
Output Set: N:\CRF3\08292002\J088950A.raw

L:397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:2400